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| 09/901,466 | 07/09/2001 | Stephen J. Lippard | MTV-033.01 | 5664 |

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| EXAMINER |
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CEPERLEY, MARY

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| ART UNIT | PAPER NUMBER |
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1641

DATE MAILED: 07/17/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/901,466

Applicant(s)

LIPPARD ET AL.

Examiner

Mary (Molly) E. Ceperley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) 12-19, 31-47 and 49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 20-29 and 48 is/are rejected.
- 7) ☒ Claim(s) 11 and 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5, 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1) Applicants' election with traverse of Group I, claims 1-11, 20-30, and 48 in Paper No. 9 is acknowledged. The traversal is on the ground(s) that the search and examination of all of the claims could be made without undue burden. This is not found persuasive for the following reasons. First, the searches are not coextensive as clearly set forth in paragraph **a)** of the December 30, 2002 restriction requirement. Consequently, a search for more than one invention would require additional searches in both the patent and technical literature. Second, different patentability considerations are involved for the different groups. For example, the examination of the metal complexes of Group IV would require an evaluation of the utility of the metal complexes *per se* while an examination of claim 1 would require the assessment of the utility of the ligand *per se* which is uncomplexed. Further, an examination of Group III, for example, would require a determination of the novelty and unobviousness of compounds wherein there is no group present which would be expected to complex with a metal unlike an examination of the ligands of Group I which contain groups which coordinate with metal ions. Therefore, Groups I-VI are considered to be patentably distinct.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-11, 20-30, and 48 have been examined on the merits in this Office action. Claims 12-19, 31-47, and 49 are withdrawn from further consideration as being drawn to non-elected inventions.

2) Although specific claims are cited in the rejections below, these rejections are also applicable to all other claims in which the noted problems/language occur.

3) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4) Claims 1-10, 20-29 and 48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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a) In claim 1, in the absence of any recitation of structure or function, it is unclear what is meant by the term "chemical moiety" which defines the variable "A".

b) In claim 1, it is unclear what is meant to be encompassed by the term "K". The term "do not preclude detecting a metal ion by fluorescence" which is used in the definition of the variable "K" is a negative limitation which apparently is intended to exclude certain substituents. However, the claim contains no positive description of any structural or functional requirements for "K" thus rendering the claim indefinite.

c) In claim 1, in the definition of "Y", "C(CH₃)₃" should be --C(CH₃)₂--.

d) In claim 1, the last two lines, it is unclear what is meant by the term "or other substituted...derivative".

e) In claim 2, for the term "J is a non-interfering substituent", it is unclear what type of "interfering" is intended.

f) The definition of "Q is -OZ" in claim 4 is not encompassed by the formula of independent claim 1.

g) In claims 4 and 8, it is unclear what is meant by the terms "a different tautomer" and "a different isomeric form" respectively.

h) The formula of claim 5 is not encompassed by the formula of independent claim 1. See also, claim 24.

i) For claim 9, it would appear that the "ligand" *per se* of claim 1 would itself be a "chelating agent" rather than the "ligand" "forming a chelating agent upon complexation of said ligand with a metal ion". It is also not clear how claim 9 differs in scope from claim 1.

5) Claims 11 and 30 are objected to as being dependent upon rejected base claims, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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6) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7) Claims 1-10 and 48 are rejected under 35 U.S.C. 102(a)/(b) as being anticipated by each of Shipchandler et al (Anal. Biochem. (1986) 154(2), 476-477), Kaplan et al (Biochim. et Biophys. Acta (1983) 728(1), 112-120), Werts et al (Angew. Chem. Internat'l. Ed. (2000) 39(24), 4542-4544), AKSO NOBEL (WO 98/39654), Flechtner et al (U.S. 4,912,208), Jackson et al (U.S. 5,667,539), ABBOTT (EP 297,303), or Kirkemo et al (U.S. 4,510,251).

Each of the references describes at least compound which anticipates a compound of the instant claims. See:

Shipchandler et al: formulas 2b and 2c wherein "R" corresponds to "A" defined as methylene and "V" defined as amino or amido in the formula of instant claim 1 (specification, page 34).

Kaplan et al: formula II of Fig. 1 wherein the moiety $-\text{CH}_2-\text{N}(\text{CH}_2\text{CH}=\text{CH}_2)_2$ corresponds to "A-V" of the formula of instant claim 1 wherein "A" is methylene, "V" is amino, and "-OZ" and "Q" are protected hydroxy.

Werts et al: Scheme 1, formulas 3 and 4 wherein the moieties $-\text{CH}_2\text{N}(\text{CH}_2\text{COOH})_2$ correspond to "A" defined as methylene and "V" defined as amino in the formula of instant claim 1.

AKSO NOBEL: page 15, lines 9-10 wherein the moieties $-\text{CH}_2\text{N}(\text{CH}_2\text{COOH})_2$ correspond to "A" defined as methylene, "V" defined as amino, and "Z2" defined as a tautomer of "other substituted (2-carboxyphenyl)-C- derivative" in the formula of instant claim 1.

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Flechtner et al: col. 13, first formula, wherein the moieties $-\text{CH}_2\text{N}(\text{CH}_2\text{COOH})_2$ correspond to "A" defined as methylene, "V" defined as amino, and "Z2" defined as a tautomer of "other substituted (2-carboxyphenyl)-C- derivative" in the formula of instant claim 1.

Jackson: the first structure of col. 25, wherein the moieties $-\text{CH}_2\text{N}(\text{CH}_2\text{COOH})_2$ correspond to "A" defined as methylene, "V" defined as amino, and "Z2" defined as a tautomer of "other substituted (2-carboxyphenyl)-C- derivative" in the formula of instant claim 1.

ABBOTT (EP 297,303): page 4, lines 1-31.

Kirkemo et al: col. 3, lines 20-39.

8) Claims 20-29 and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by each of ABBOTT (EP 201,751), ABBOTT (EP 297,303) or Ghoshal et al (U.S. 5,986,094).

Each of the references describes a compound wherein only one of the benzene rings of the fluorescein moiety is substituted with a group corresponding to "A-V" of the formula of claim 20. Each of the prior art compounds anticipates at least one compound of the instant claims. See ABBOTT ('751): col. 4, lines 7-14; ABBOTT ('303): page 4, lines 1-31; Ghoshal et al: FIGURE 1, formulas 2 and 3.

9) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary E. (Molly) Ceperley whose telephone number is (703) 308-4239. The examiner can normally be reached from 8 a.m. to 5 p.m.

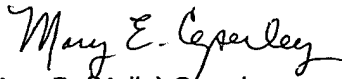
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le, can be reached at (703) 305-3399. The fax phone number for responses to be filed BEFORE final rejection is (703) 872-9306. The fax phone number for responses to be filed AFTER final rejection is (703) 872-9307.

Questions which are NOT RELATED TO THE EXAMINATION ON THE MERITS, should be directed to **TC 1600 CUSTOMER SERVICE** at **(703) 308-0198**. Any inquiry of a general nature or relating to

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the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

July 11, 2003


Mary E. (Molly) Ceperley
Primary Examiner
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